Department of Energy

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JUN 2 1997

97-DOE-05064

Mr. Steve Tarlton
RFCA Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80222-1530

Dear Mr. Tarlton:

Enclosed are the Proposed Action Memorandums (PAMs) for the Decommissioning of the Building 980 Cluster and the Decommissioning of Building 123. Your staff have been involved in reviewing drafts of each, and both documents are ready for release for public comment. It is my understanding that the newspaper advertisements for these two PAMs will be out this week.

If you should have any questions regarding these PAMs, please call William Fitch at 966-4013.

Sincerely,

Steven W. Slaten
RFCA Coordinator

Enclosure

cc w/Enc:
T. Rehder, EPA
D. Shelton, K-H
Administrative Record

cc w/o Enc:
J. Karpatkin, CED, RFFO
J. Legare, AMEC, RFFO
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RF/RMRS-97-016

Proposed Action Memorandum (PAM)

For The Decommissioning Of The Building 980 Cluster

May 1997

PROPOSED ACTION MEMORANDUM
FOR THE DECOMMISSIONING OF THE BUILDING 980 CLUSTER

REVISION 0

MAY 1997

This Proposed Action Memorandum has been reviewed and approved by:

Vern Guthrie, Acting Vice President — 5/27/97 Date

Mark Hickman, Project Manager — 5-27-97 Date

Gary Konwinski, Permitting — 5-27-97 Date

Ruth McCafferty, Industrial Hygiene — 5-27-97 Date

DAVID WARFIELD for JUAN HERNANDEZ
Juan Hernandez, ESH&Q — 5-27-97 Date

This Proposed Action Memorandum was prepared by:

Mike Grube, Radiological Engineer, SEG, CO — 5/27/97 Date

PROPOSED ACTION MEMORANDUM

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ACRONYMS

ACM	Asbestos Containing Material
AHA	Activity Hazard Analysis
ARARs	Applicable or Relevant and Appropriate Requirements
BRCS	Building Radiation Cleanup Standard
CCR	Colorado Code of Regulations
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive, Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOE	U. S. Department of Energy
DPP	Decommissioning Program Plan
EDE	Effective Dose Equivalent
EPA	U. S. Environmental Protection Agency
FSP	Field Sampling Plan
HASP	Health and Safety Plan
HSP	Health Safety Practices
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Program
Kv	Kilovolt
MOU	Memorandum of Understanding
mrem	millirem
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
OSHA	Occupational Safety and Health Administration
PM	Project Manager
PA	Protected Area
PAM	Proposed Action Memorandum
PCB	Polychlorinated Biphenyl
PHA	Project Hazard Assessment
ppm	parts per million
PPE	Personal Protective Equipment
PU&D	Property Utilization and Disposal
QA	Quality Assurance
QAPP	Quality Assurance Program Plan
QC	Quality Control
RBA	Radiological Buffer Area
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site

RLCR	Reconnaissance Level Characterization Report
RPOSO	Radiation Protection And Occupational Safety Officer
SAP	Sampling and Analysis Plan
SAA	Satellite Accumulation Area
TBC	To Be Considered
TSCA	Toxic Substances Control Act

PROPOSED ACTION MEMORANDUM FOR THE DECOMMISSIONING OF THE BUILDING 980 CLUSTER

1.0 PURPOSE

This Proposed Action Memorandum (PAM) outlines the approach that will be taken and the applicable requirements that will be utilized in the decommissioning of Buildings 965, 968, and 980 (the Building 980 Cluster) as part of the site cleanup of the Rocky Flats Environmental Technology Site (RFETS). The removal is being conducted in accordance with the Rocky Flats Cleanup Agreement (RFCA [Department of Energy (DOE), 1996]) and the Applicable or Relevant and Appropriate Requirements (ARARs) of the Federal, State, and local regulations identified in Table 5-1. In accordance with RFCA the decommissioning will be conducted as non-time critical removal actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), an interim action, and is in keeping with the site's 10-year plan. The regulatory requirements are implemented through RFETS policies and procedures. This action will be conducted in a manner which is protective of site workers, the public, and the environment.

2.0 PROJECT DESCRIPTION

2.1 BACKGROUND

The Building 980 Cluster is located near the center of RFETS within the Protected Area (PA) (see Figure 2-1). The associated buildings currently have no mission or scope. They were previously utilized as warehouses and to store construction equipment, building material, and supplies for contractors on-site.

Building 965 is a single-story corrugated metal structure constructed on a concrete slab. The building is located on the eastern side of RFETS. Building 965 is 25 feet long by 25 feet wide by approximately 18 feet high; the total floor space square footage is 625.

Building 968 is a single story corrugated metal structure constructed on a concrete slab. The building is located on the eastern side of RFETS. The building is situated south of Building 980. Building 968 is 125 feet long by 95 feet wide by approximately 18 feet high; the total floor space square footage is 11,025.

Building 980 is a single-story corrugated metal structure constructed on a concrete slab. The building is located on the eastern side of RFETS. The building is situated south of Spruce Avenue and Building 910. Building 980 is 200 feet long by 65 feet wide by approximately 18 feet high; the total floor space square footage is 13,075.

Sewage, domestic water, and natural gas lines feed into Building 968 and 980. The natural gas line feeds into Building 980 on the north side and on the west side of Building 968. Building 968 has a post indicating valve (fire suppression valve) located at the northwest end of the building. Building 965 contains no sewage, domestic water, steam and condensate lines, or natural gas lines.

Electrical power for the Building 980 Cluster originates at Substation 517-2. An overhead 13.8 Kv line branches to Power Pole C6-673B. At Power Pole C6-673B, the 13.8 Kv line enters a conduit that is routed down the pole and underground to Transformer T-980. From the primary side of Transformer T-980, the 13.8 Kv is stepped down to 480 volts, 3 phase, on the secondary side. The 480 volts on the secondary side of Transformer T-980 supplies the line side of a disconnect switch that is attached to T-980. From the load side of the disconnect switch a conduit containing the 480 volt cable is routed up Power Pole C6-673A where it exits a weatherhead and is tapped onto an overhead line. This overhead line supplying 480 volts is routed directly to Building 980 from this point. Also from this point, the overhead line supplies 480 volts to Buildings 968 and 965 via Power Poles C7-652 and C7-652A.

Buildings 965, 968, And 980 D&D Area

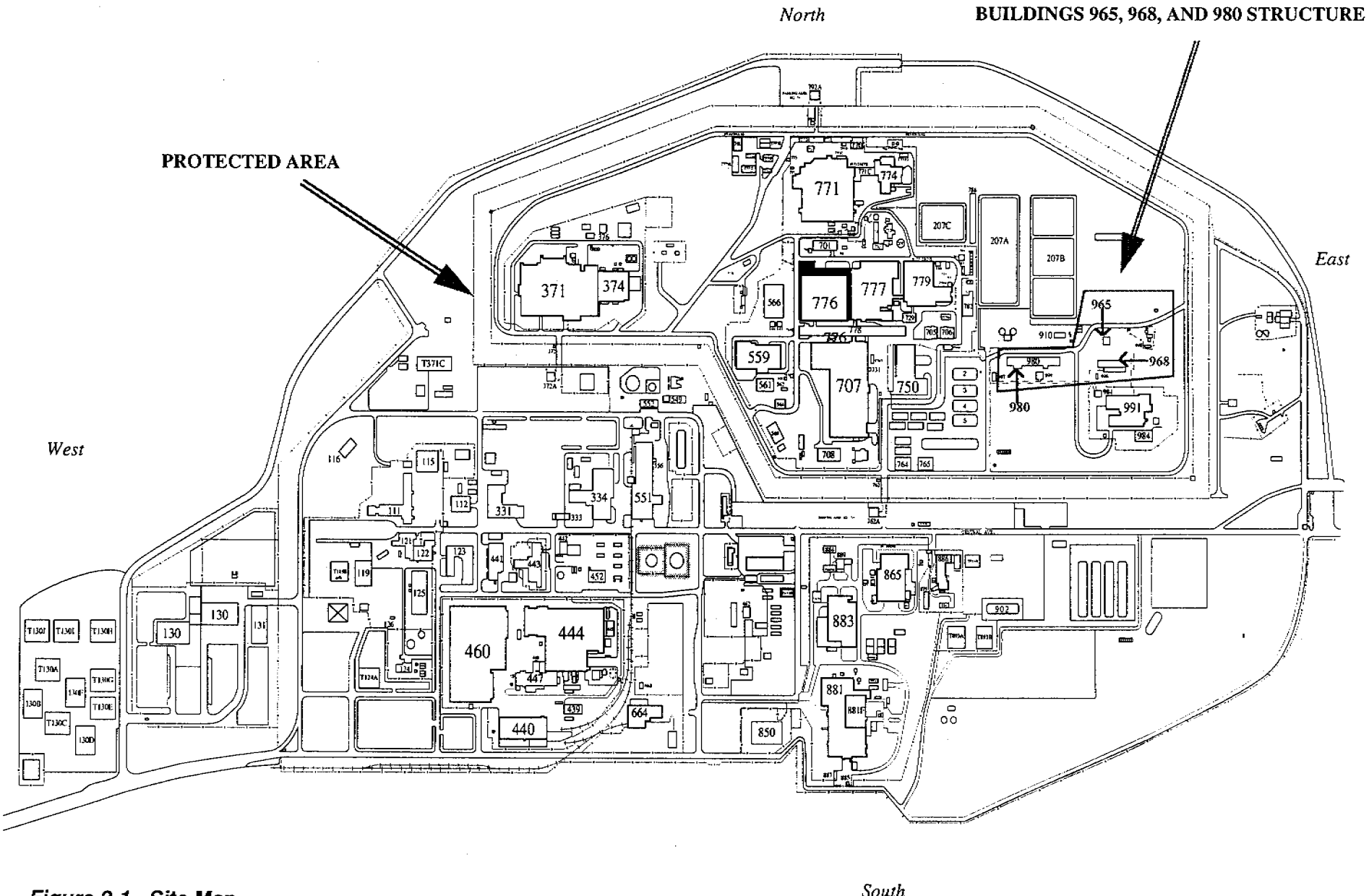

Figure 2-1 Site Map

2.1.1 Foundations

Foundations for Buildings 965, 968, and 980 are horizontal, poured-in-place, reinforced concrete spread footings. In depth below grade, they vary from 3 ft to 9 ft. Reinforced concrete grade beams, 16 in. to 18 in. wide and 10 in. to 13 in. thick, rest on the spread footings. Concrete grade walls 10 1/2 in. to 12 in. thick and 4 ft 6 in. deep support the exterior walls.

2.1.2 Structural Framing

The following describes the framing members used in Buildings 965, 968 and 980. Columns constructed of metal beams rest on slab footings, supporting the corrugated walls and ceilings in Building 965 and Building 980. Building 968 has wood beams supporting the corrugated metal walls and metal beams supporting the ceiling. The majority of the beams are painted with industrial epoxy paint.

2.1.3 Exterior Walls

Exterior walls of Buildings 965, 968, and 980 are made of corrugated steel. The walls are not insulated. Outer surfaces of the metal walls are unpainted. The walls are designed to be the equivalent of 2-hr fire-rated walls.

2.1.4 Floors

The floor slabs in Buildings 965, 968, and 980 are poured-in-place, reinforced concrete 6 to 8 in. thick, with a barrier on a gravel base.

2.1.5 Roofs

The roofs on all three buildings are constructed of corrugated metal with a few fiberglass sunlight panels inserted. There is no asbestos containing material (ACM) associated with the roofing materials.

2.1.6 Interior Walls

Most interior and exterior walls in Buildings 968 and 980 are corrugated metal. The interior surface of the exterior walls is uninsulated metal.

2.1.7 Ceilings

Ceilings in offices and hallways are suspended acoustical tile. Elsewhere in Buildings 965, 968, and 980 the ceilings are the undersides of floors and roofs.

2.1.8 Doors

Most of the personnel doors in Buildings 965, 968, and 980 are either solid steel, steel with louvers, or steel with safety glass windows. Building 980 has 13 metal roll-up doors at various locations on the north and south side of the building, and one large sliding door on the east end of the building. Building 968 has two large sliding doors at the northeast and southeast ends of the building. Building 965 has one rolling door at the south end of the building.

2.1.9 Windows

There are windows in Buildings 965, 968, and 980. Building 980 has seven windows on the south side and five on the north side. Building 968 has two windows on the east side and three on the west side. Building 965 has one window on the north and east sides and two on the west side of the building.

2.1.10 Surface Finishes

Most interior and exterior walls in Building 980 are not painted. Beam and railing areas are painted with epoxy. Walls are corrugated metal and the floors are painted concrete.

2.2 HISTORICAL DATA

Building 965, constructed in 1981, functioned as a maintenance shop until 1996, and was utilized for various carpentry services and equipment repairs. Wood products were brought into the building to be drilled, cut and made into scaffolding, shoring, and desk supports. In addition, equipment, such as pumps and electric motors, was brought in for repair. Tools, including drills, routers, and saws were utilized in this area. No hazardous waste streams originated from this facility.

Building 968, constructed in 1982, was used by the construction subcontractor for storage, warehousing, and support shops for their activities at the plant. The building housed work and staging areas for painting (mixing and blending) and motorpool maintenance. Waste was generated during these processes and while conducting building maintenance. Resource Conservation and Recovery Act (RCRA) waste streams were managed in Satellite Accumulation Areas (SAAs) (e.g., paint sludge with thinner/solvents, flammable waste and paint equipment). Waste generated in support of motorpool activities included: combustibles, broken parts, used absorbent, and empty containers. Used oil and filters were recycled, solvents used were non-hazardous, batteries were reclaimed, and aerosol cans were punctured then recycled. Fluorescent tubes were crushed and placed in a SAA until shipped off-site or placed in a RCRA permitted unit.

Building 980, constructed in 1957, was previously used by subcontractors for storage, warehousing, and as a support shop for their activities. Operations within Building 980 included: sheet metal work, painting, iron work, asbestos abatement, carpentry, millwright work, and motorpool maintenance. RCRA waste streams were managed in SAAs (e.g., paint sludge with thinner/solvents, flammable waste and paint equipment). Waste generated in support of motorpool activities included: combustibles, broken parts, used absorbent, and empty containers. Used oil and filters were recycled, solvents used were non-hazardous, batteries were reclaimed, and aerosol cans were punctured then recycled. Fluorescent tubes were crushed and placed in a SAA until shipped off-site or placed in a RCRA permitted unit.

2.3 BUILDING HAZARD SUMMARY

2.3.1 General

The Building 980 Cluster historic information, including the Waste Steam and Residue Identification and Characterization building books for Buildings 965, 968, and 980, was reviewed to determine the hazardous materials and hazardous waste associated with these buildings. Previous building occupants were interviewed to assist with this scoping characterization effort. Hazardous material information is summarized in the following sections. The information provided also indicates that hazardous wastes generated from operations were removed from the buildings for disposal or accumulated in SAAs for staging purposes. At this time, there are no hazardous wastes being stored in the buildings.

2.3.2 Radiological Concerns

Based on the process knowledge associated with Buildings 965, 968, and 980, and their general use as warehouses, there is no expectation of radiological contamination except in the following areas:

- A radiological buffer area (RBA) and a contamination area presently exist in the east end of Building 980. A slightly contaminated pumping truck was decontaminated in the area and is currently present. The truck and contamination area will be removed prior to the implementation of this PAM. Based on previous and recent radiological surveys, no radiological contamination has been detected on the building surfaces in the RBA in the vicinity of the truck.

- A potential for radiological contamination exists on the metal surfaces on the outside of Buildings 965, 968, and 980 as a result of potentially contaminated spray, during high wind conditions, from solar evaporation ponds to the north and west of the buildings.

2.3.2.1 Radiological Characterization/Final Survey

The decommissioning guideline in Draft Nuclear Regulatory Commission NUREG/CR-5849, "Manual For Conducting Radiological Surveys In Support of License Termination," will be used for guidance in area classification and survey design. As such, areas will be classified as Affected or Unaffected as defined below:

Affected areas, are defined as areas that have potential radioactive contamination (based on historical reviews), or known radioactive contamination (based on past or preliminary radiological surveys). This would normally include areas where radioactive materials were used or stored, where records indicate spills or other unusual occurrences that could have resulted in the spread of contamination and where radioactive materials were buried. Areas immediately surrounding or adjacent to locations where radioactive materials were used or stored, spilled, or buried are included in this classification because of the potential for inadvertent spread of contamination. Characterization surveys will be used to determine to what extent the Building 980 Cluster should be classified as affected. Affected areas will require the performance of extensive radiological surveys (areas initially classified as affected, based on potential radiological contamination from historical reviews versus actual contamination, based on previous surveys may be re-evaluated, if initial characterization indicates no radiological contamination exists above the applicable limits). A comprehensive, but less extensive, survey will be performed on all other building surfaces that are considered Unaffected.

Unaffected areas are areas not classified as affected. These areas are not expected to contain residual radioactivity based on a knowledge of site history and previous survey information.

Affected areas will be divided into one square meter grids, and a minimum of one fixed and one removable contamination measurement for beta/gamma and alpha will be obtained for each grid location. In addition, a 100 percent scan for beta/gamma and alpha will be performed on all accessible surface areas.

Unaffected areas will be surveyed at a minimum frequency of one fixed and one removable contamination measurement for beta/gamma and alpha for each nine square meters (approximately) of the accessible surface areas. In addition, a minimum 10 percent of all accessible surface areas will be scanned for beta/gamma and alpha contamination.

2.3.2.2 Unconditional Radiological Release Criteria

In accordance with the RFCA, residual radioactive contamination levels present on building surfaces and demolition materials will be reduced to a level that will not cause the maximally exposed member of the public to receive, through all potential pathways, an effective dose equivalent (EDE) of 15/85 mrem above background in any single year. The RFETS Building Radiation Closure Standard (BRCS) will delineate the specific levels of residual radioactive materials contained in remaining building surfaces, and demolition debris that is compliant with the 15/85 mrem limit and appropriate As Low As Reasonably Achievable considerations. The BRCS

is currently being developed in coordination with the Environmental Protection Agency (EPA), Colorado Department of Public Health and Environment (CDPHE), and DOE.

Until such time as the BRCS is approved, the more conservative criteria contained in DOE Order 5400.5 and associated RFETS radiation protection procedures will be used to determine if building surfaces, equipment, and demolition debris is acceptable for unconditional release.

The unrestricted release of equipment removed from RFETS will comply with DOE Order 5400.5, RFETS Radiological Control Manual and associated RFETS radiation protection implementing procedures. When 10 Code of Federal Regulations (CFR) Part 834 is approved, the practices and procedures for the release of property and waste materials will be appropriately modified to ensure compliance.

2.3.3 RCRA

Painted surfaces are present throughout the Building 980 Cluster. Safety paint (yellow and red) used in the buildings is lead based. Historical knowledge, age of the buildings, and analytical data obtained from similar paints from like structures serves as the basis for the assumption that surfaces coated with safety paint are lead based.

The site Lead Abatement Protocol will be implemented in the event that work is performed on lead containing surfaces. Prior to demolition, waste will be collected, characterized, and managed in accordance with applicable hazardous waste regulations.

2.3.4 Asbestos

Asbestos characterization activities have been performed in the Building 980 Cluster and included a review of documents detailing facility history, facility construction drawings, walkdowns, sample collection, and analysis and evaluation, and documentation of results and conclusions. The asbestos characterization survey was designed and managed by a qualified individual in accordance with the requirements of 29 CFR 1926.1101. Samples were collected at locations identified during the review of facility drawings and walkdowns. Surveys were performed by certified personnel according to the guidelines set forth by the Asbestos Hazard Emergency Response Act and in compliance with the EPA, Occupational Safety and Health Act (OSHA), and CDPHE regulations. Asbestos inspections were performed using trained individuals and written procedures. All samples were tracked from sample collection through transport and analysis. All samples were analyzed at a certified laboratory. Data was recorded in an orderly and verifiable manner and was reviewed by a qualified Building Inspector for accuracy and consistency. A report has been prepared summarizing laboratory results including sample location, sample description, asbestos type and percent, non-asbestos fiber types, matrix types, and sample color. The resulting analytical data confirms the presence of asbestos in the insulation on the water pipe fittings in Buildings 968 and 980, and wall board in Building 980 as follows:

- Building 965 - No asbestos has been discovered in this building.
- Building 968 - 21 mudded fittings and 35 linear feet of pipe insulation in the rest room area contains asbestos and will be handled utilizing asbestos abatement procedures.
- Building 980 - 5 mudded fittings and 20 linear feet of pipe insulation in the rest room area contains asbestos and one section of a wall consists of transite wall board.

All identified asbestos will be handled utilizing asbestos abatement procedures and all demolition activities performed in the vicinity of ACM, will be conducted by certified personnel in compliance with State regulatory requirements.

Buildings 965, 968, and 980 were inspected by a State certified asbestos building inspector as part of the reconnaissance characterization process. Suspect materials were thermal systems insulation, surfacing materials, and miscellaneous materials. Subsequent sampling identified less than 160 linear feet of friable thermal systems insulation and approximately 300 square feet of non-friable cementitious board total for the complex.

State of Colorado Regulation 8 Part B states that the control of asbestos requires notification if the amount of asbestos exceeds 160 linear, 260 square, or the volume equivalent of one 55 gallon drum. This notification must precede the intended abatement date by ten days. This PAM is the asbestos abatement notification to the State of Colorado.

In addition to the notification for abatement, the State requires a Demolition Notification Form to be submitted that documents the building has been inspected by a certified asbestos building inspector, and that all asbestos containing materials excluding tar impregnated roofing felt and vinyl asbestos tile have been removed prior to demolition.

3.0 PROJECT MANAGEMENT OVERVIEW

3.1 PROJECT ORGANIZATION

3.1.1 Project Manager (PM)

The Building 980 Cluster Decommissioning PM reports to the Manager of Engineering/Construction/Decommissioning and is responsible for the overall management of the project. To carry out this function the PM is responsible for and has the authority for the development, execution, supervision, coordination, and integration of all aspects of the decommissioning project's planning, staffing, management, and operations activities. All project aspects will be completed under his/her direction or through a designated individual.

3.1.2 Radiation Protection And Occupational Safety Officer (RPOSO)

The RPOSO reports to the Building 980 Cluster PM for priorities associated with day-to-day project related activities. The RPOSO has responsibility for facility characterization, implementation of the RFETS Radiological Control Manual and final survey development and implementation. The RPOSO will maintain a direct reporting relationship to the Rocky Mountain Remediation Services, L. L. C. Health and Safety Manager and the Kaiser-Hill Company, L. L. C. Radiation Protection Manager for ensuring project activities are compliant with applicable health and safety regulations and requirements. This duel reporting relationship will allow independence of perceived project pressures due to schedule and funding demands.

3.1.3 Decommissioning Construction Management Superintendent

The decommissioning Construction Management Superintendent reports to the PM and is responsible for managing the decommissioning team (labor and supervision), in completing the decommissioning activities which include the decontamination of surfaces, structures, materials and equipment, the decommissioning activities of sub-contractor's work, the movement, packaging and storage of wastes on-site, the monitoring of performed work verses planned activities, and for maintaining time records of the operating staff. The decommissioning Construction Management Superintendent is also responsible for ensuring that activities are performed in accordance with applicable Integrated Work Control Program (IWCP) procedures, including tasks plans, radiation work permits, and safety requirements.

3.1.4 Project Administrator

The Project Administrator reports to the PM. The Project Administrator is responsible for establishing and maintaining the project files which will include all project related documentation.

The Project Administrator will also provide clerical and secretarial support to the PM. The Project Administrator will provide a copy of all project documents to the Administrative Record for distribution.

3.1.5 Project Cost And Schedule Lead

The Project Cost and Schedule Lead reports to the PM and is responsible for establishing, maintaining, and reporting project cost and performance utilizing the Primavera software. The Project Cost and Schedule Lead is responsible for generating status reports and schedules as requested by the PM.

3.1.6 Quality Assurance (QA) Engineer

The QA Engineer is responsible for performing assessments and surveillance of project activities, inspections of selected activities, assists in training project personnel on Quality Control (QC) requirements, provides concurrence regarding the dispositioning of Non-Conformance Reports, and reviews project procedures for quality requirements by providing quality related input. The QA Engineer is also responsible for initiating discrepancy reports, Non-Conformance Reports, Corrective Action Requests, and reviewing worker training records to ensure workers are appropriately trained. The QA Engineer receives direction from the PM regarding project priorities. The QA Engineer reports to and receives technical direction from the QA Manager.

3.1.7 Project Engineer (PE)

The PE is responsible for completing engineering activities supporting the decommissioning project. The PE is responsible for complying with Engineering Department procedures applicable to the project scope of work. He/she receives daily project direction from the PM and reports to the Engineering Manager for technical overview.

3.1.8 Regulatory Compliance Engineer

The Regulatory Compliance Engineer reports to the PM and is responsible for ensuring that the project activities are conducted in compliance with applicable environmental and regulatory requirements as identified in RFCA. The Regulatory Compliance Engineer will review IWCPs and change work processes, as necessary, to ensure the projected work is completed within existing permit requirements or he/she will have the permits issued/ modified to include the proposed work. The Regulatory Compliance Engineer is the PMs' interface with State and Federal regulators. The Regulatory Compliance Engineer will track all regulatory commitments and coordinate their completion.

3.2 DECOMMISSIONING OBJECTIVES

All sampling data was reviewed and considered valid and thereby usable, in accordance with sampling, analytical, and record keeping procedures. Data Quality Objectives for the characterization have been satisfied.

The objective of all decommissioning actions is to safely dismantle all systems, and remove material internal to the buildings, decontaminate all hazards areas within the structures, and dismantle the external framework. This will be completed through the integration of DOE guidance and Orders, site infrastructure pre-job planning and briefing, training on general safety and job specific safety, and documenting processes that have been improved with previous projects lessons learned.

The Decommissioning Program is comprised of the resources to budget, plan, engineer, execute and control the decommissioning of the entire RFETS, consisting of several major facilities. Each major building, group of buildings (cluster) or grouping of similar building areas may comprise a decommissioning project.

Each of the decommissioning projects assigned within the Decommissioning Program have many common activities which will be managed at the program level. These activities consist of planning, engineering, permitting, characterization, waste disposal, site preparation, and final release. In this manner, these activities can be accomplished beginning immediately with a level of effort staffing. The deliverables of these activities are prepared in advance of individual project needs. This will allow the operations activity schedule of the Decommissioning Program to be compressed, which will have a major effect on the surveillance and maintenance costs due to a reduced overall schedule.

Activities that include dismantlement, decontamination, demolition, and site specific preparatory activities will be managed at the project level. The PM will be responsible for the integration of project activities for individual projects and will have full responsibility for directing all resources necessary to complete the project.

3.3 DECOMMISSIONING PROCESS

The decommissioning process is described in general terms as decommissioning planning and engineering, and decommissioning operations. This process documents the minimum elements that will be utilized by the Decommissioning Program to document their actions.

The objectives of the Building 980 Cluster Decommissioning Project are as follows:

- Characterize the facilities to enable the decommissioning work to be adequately planned, ensuring safety of the decommissioning workers, the public, and the environment
- Complete the decommissioning activities with no personnel injuries.
- Remove the contents of the Building 980 Cluster facilities and transfer the material to Property Utilization and Disposal (PU&D) for salvage scrap and/or re-use.
- Remove, survey, and transfer the material immediately surrounding the Building 980 Cluster to PU&D for salvage scrap and/or re-use.
- Abate any ACM from the Building 980 Cluster prior to demolition.
- Dismantle the Building 980 Cluster buildings down to the building foundations without disturbing the surrounding environs.

3.3.1 Characterization Planning And Engineering

The decommissioning planning phase begins with the selection/release of buildings/units to the Decommissioning Program. The release of buildings/units from building management to the Decommissioning Program begins with the review of building documentation and characterization data and a walk-down of the buildings by Decommissioning personnel. Once the release has occurred, the Decommissioning Program will develop project-specific documents in accordance with the Draft Decommissioning Program Plan (DPP). A project-specific plan will have been developed by the Decommissioning Program staff for preliminary budgeting purposes which reflects the decommissioning section of the 10-year plan. The Decommissioning Program Manager will develop this plan, to the detail necessary, and apply the Decommissioning Cost and Schedule Control System. This plan is based on the information gathered, building process knowledge, and planned decommissioning activities. Depending upon the availability of funds, the decommissioning planning phase will generally be conducted prior to the release of the buildings to the Decommissioning Program.

The PM will have a project-specific Health and Safety Plan (HASP) developed which identifies the types of hazards within the decommissioning work scope. Those hazards will be mitigated

through implementation of controls identified in the Project Hazard Assessment (PHA). This HASP may be developed by a subcontractor if the work is subcontracted. This project-specific HASP also requires the use of Activity Hazard Analysis (AHA) for each task. The PHA is the personnel hazard assessment for the specific task addressed in the AHA.

The PHA is primarily for the protection of the workers and will identify any safety issues such as the need for Personal Protective Equipment (PPE) and confined space entry. Personnel risk analysis will address the potential for contamination of personnel and hazards associated with chemicals in the area. Engineering support will assist in identifying methodologies and equipment to be utilized during the decommissioning process. This step is to minimize impacts and provides a well organized approach to decommissioning.

The Memorandum of Understanding (MOU) with Environmental Restoration is generated if the scope of the decommissioning does not remove all the chemicals or radiological hazards associated with the removal action. Examples of items to be included in the MOU are hazardous substance spills prior to, or during, the decommissioning action, underground or embedded piping, and sub-basement/soil remediation. Sanitary sewer, domestic water, and underground fire water lines will be left in place during the Building 980 Cluster decommissioning.

Waste management activities and waste minimization requirements will be incorporated in the IWCP. Waste volumes will be estimated and provided to the Waste Management organization for their planning purposes. The waste management requirements for this cluster are addressed in the Reconnaissance Level Characterization Report (RLCR) for the Building 980 Cluster. Waste minimization techniques will be used to reduce the volume of waste generated by the decommissioning actions. Minimal radiological and hazardous waste is expected to be generated in completing this project (see Waste Management Section 3.7).

3.3.2 Decommissioning Physical Work

The decommissioning activities which will be completed in the Building 980 Cluster are identified below (Note: all activities are controlled through the use of IWCPs which identify how tasks will be completed and state what safety precautions apply to the task being performed):

- Remove the permanent equipment from the structures and surrounding areas (e.g., cargo containers).
- Complete the asbestos abatement.
- Disconnect and cap water utilities.
- De-energize and disconnect electrical power (the electrical power system around the Building 980 Cluster will be modified to eliminate obsolete sections).

The final actions are to prepare Dismantlement Plans and remove the building structures (the building foundations will be checked to ensure no new ground water migration paths are introduced). The foundations will be left in place and sealed, if necessary, to inhibit precipitation migration through the foundation into the ground water.

3.4 QUALITY PROGRAM

A commitment to a quality program and a continuous improvement philosophy are applied from project start through completion. This commitment to quality is instilled at all project levels, and adherence to this commitment is instrumental in the project's success. All project personnel are responsible for following approved QA program requirements and participating in quality improvement activities.

QA/QC personnel are involved at the initial planning stages of the project during site preparation and during project execution. The QA organization assumes a proactive role during the project by identifying and/or preventing potential problems or shortcomings, offering solutions and assisting in corrective action steps. QA personnel are also responsible for objectively verifying that management/DOE directions and policies are being effectively implemented by the responsible organizations. The QA/QC role includes:

- Assurance that the engineering and administrative procedures are adhered to and are consistent with other project/DOE requirements
- Performance of audits and surveillances
- Review of applicable procurement and work documents
- Assurance of document review and approval requirements
- Review of data gathering methodologies
- Determine compliance with procedures
- Inspection of waste packaging
- Inspection of incoming materials
- Performance of facility walkdowns
- Monitor project for potential improvements
- Monitor corrective action initiatives

3.5 WORKER HEALTH AND SAFETY

Due to the scope of work and the potential hazards associated with this decommissioning action, this project will comply with the OSHA Construction Standard For Hazardous Waste Operations And Emergency Response, 29 CFR 1926 and Health And Safety Practices (HSP) 24.01, Construction Safety And Health Requirements. Under these standards, a site-specific HASP will be developed to address the safety and health hazards of each phase of site operations and specify the requirements and procedures for employee protection. In addition, the DOE Order for Construction Project Safety And Health Management, 5480.9A, applies to this project. The Order and HSP 24.01 require the preparation of AHAs to identify each task, the hazards associated with each task, and the actions taken to mitigate the hazards. These requirements will be integrated into the work process wherever appropriate.

This project could expose workers to physical, chemical, and low levels of radiological hazards. The physical hazards associated with decommissioning activities include: the use of heavy equipment, electrical shock, noise, heat stress, and work on elevated surfaces. Physical hazards will be mitigated by appropriate use of PPE, pre-engineering evaluation, briefing, training, and administrative controls. Chemical hazards will be mitigated by the use of PPE, removal of sources, and administrative controls. Appropriate skin and respiratory PPE will be worn throughout the project as directed by Industrial Hygiene personnel. Based on employee exposure evaluations, the site Health and Safety Officer may downgrade PPE requirements, if appropriate. If field conditions vary from the planned approach, the AHA will be modified for the existing circumstances and work will proceed according to the appropriate control measures. Data and controls will be continually evaluated. Radiological Work Permits will be generated for areas of contamination and will identify the areas of potential surface contamination, appropriate PPE, and airborne radioactivity controls, if necessary. As required by 10 CFR 835, Radiation

Protection of Occupational Workers, all applicable implementing procedures will be followed to insure protection of the workers. Finally, dust minimization techniques will be used to minimize re-suspension or fugitive dust emissions.

3.6 CHARACTERIZATION

Characterization of a facility is the process of identifying the physical, chemical, biological, and radiological hazards are associated with a facility. The hazard may be contained (i.e., acid in a tank or loose radioactive material on the floor) or the hazard may be potential (i.e., broken ladder or immediate, or a leaking pipe which contains radioactive material).

All existing equipment and materials will be characterized using process knowledge, material composition, and surveys, as appropriate to determine the potential for hazardous constituents, Toxic Substances Control Act (TSCA) materials, or radioactive contamination. The equipment and materials will be handled, stored, and/or disposed of in accordance with applicable State and Federal regulations.

This section discusses the types and phases of characterization which have been and will be completed for the Building 980 Cluster.

3.6.1 Scoping Characterization

The Scoping Characterization phase is the process of gathering information about facility hazards from existing sources. The main sources of this information are historical records, routine survey records, facility walkdowns, and interviews with former facilities' personnel.

3.6.2 Reconnaissance Characterization

The reconnaissance characterization phase establishes a definitive baseline of information about the facilities' hazards. During this phase of characterization, the information from the scoping characterization is used in conjunction with a review of the proposed decommissioning activities to determine if the proposed activities are feasible and to identify the need for additional sampling and/or surveys. If additional characterization information is needed to adequately define the quantity and distribution of contaminants, the additional samples would be obtained during the Reconnaissance Characterization phase. The culmination of this phase results in development of a RLCR. The RLCR is a summary of all known characterization information which was obtained for the facilities being investigated.

It is not anticipated that any environmental sampling will be required during the Building 980 Cluster decommissioning. However, if conditions change and environmental sampling becomes necessary, a Sampling and Analysis Plan (SAP) will be prepared in accordance with the RFCA. The SAP requires approval by the Lead Regulatory Agency (CDPHE) before the action can commence.

A SAP is made up of two parts: the Field Sampling Plan (FSP) and the QA Program Plan (QAPP). The FSP identifies sample, quantity, location, method for handling, collection, and storage of samples and the method of analysis. The QAPP documents the quality actions associated with the project.

3.6.3 Characterization Summary

Based on review of the available information, it was determined that no further sampling or radiation surveys were required prior to completing the RLCR. However, additional sampling will be performed as In-process Characterization. The existing data is adequate to plan for the decommissioning activities and provide protection for the work force. The following decisions and observations were made from the Reconnaissance Level Characterization data:

1. There are no areas within the Building 980 Cluster that contain significant amounts of unidentified, uncontrolled, or unmarked radioactive contamination.

2. Although hazardous chemicals were housed in the Building 980 Cluster facilities, all excess and hazardous chemicals have been removed during the deactivation process. A few paints and cleaning solvents remain which will be removed by the subcontractor. Because the majority of chemicals have been removed and there are no known areas which have a buildup of chemical residue, no special chemical characterization is anticipated. Should a chemical be found during the decommissioning process, the chemical will be handled in accordance with existing chemical identification and handling procedures.

3. The specific quantity and distribution of ACM is known. An inspection of the facilities has been completed and the results are summarized in the RLCR.

4. Paints (specifically red and yellow) used for safety markings are considered lead based. Analytical data has confirmed the presence of lead in these paints. AHA will assume that these paints contain lead and appropriate precautions will be included in the work activity.

5. The fluorescent lights and asociated ballasts will be removed and disposed of in accordance with appropriate RFETS procedures.

6. Although no Polychlorinated Biphenyls (PCBs) are anticpiated in the Building 980 Cluster, one floor coating sample will be analyzed from Building 980 due to the age of the building (1957 construction). This sample will be obtained and analyzed in accordance with and the Decommissioning and Decontamination Characterization Protocol and guidance obtained from Toxic Substances Control Act Program Management.

The Building 980 Cluster project-specific HASP utilizes the characterization information to ensure that the associated hazards are addressed. For day-to-day field activities, the HASP requires that AHAs are developed to ensure worker protection and safety on a task specific basis.

3.7 WASTE MANAGEMENT

A project-specific Waste Management Plan will not be developed for this project. Waste management information is contained in the RLCR for the Building 980 Cluster. The waste management information is summarized below:

- There are three drums of low-level radiological waste in Building 980. These drums were left in the building after decontamination of the solar pond vacuum truck. The waste travelers will be verified to be complete and accurate and the drums will be removed from the area.

- Building 980 Cluster records indicate that there is no radiological contamination in Building 980, 965, or 968. A random radiological survey sampling indicated no radiological contamination in the Building 980 area which houses the vacuum truck.

- Buildings 980 and 968 house portable equipment which was used in other site buildings. These items will be cleaned and surveyed for free release. Some of these items have surfaces which cannot be surveyed and, therefore, will be treated as a low-level waste.

- The following waste volume estimates are based on the information provided above.

Type Of Waste	Volume
Transuranic Waste	None
Low-Level Waste	3 Drums, 3 Crates
Mixed Waste	None
Hazardous Waste (i.e., paint solvents)	2 Drums
Industrial (i.e., recycled metal)	163 Tons
Industrial (i.e., drywall and misc. consumables)	30 yd^3
Asbestos Containing Material	6 yd^3

4.0 ENVIRONMENTAL ISSUES

Compliance with the National Environmental Policy Act (NEPA) for CERCLA activities such as decommissioning of buildings is achieved by including consideration of NEPA values in the CERCLA decision document for the activity. This PAM is the CERCLA decision document for decommissioning of the Building 980 Cluster. The appropriate NEPA values for decommissioning of these buildings are the same as those appropriate to the decommissioning of other buildings at the site. These are described and considered in the draft DPP, an early draft of which is currently in review by the Rocky Flats Field Office. This PAM includes, by reference, the NEPA values section (currently Section 6.3) of the DPP. The anticipated environmental effects associated with the decommissioning of Buildings 965, 968, and 980 are integrated into the environmental effects described in the DPP.

5.0 ARARs

Decommissioning actions at RFETS that are performed under a PAM must attain, to the maximum extent practicable, compliance with Federal and State ARARs. The substantive attributes of the Federal and State ARARs, relating to this proposed action, are identified in this section and summarized in Table 5-1.

The Colorado Air Pollution Prevention and Control Act standards for emissions (5 Colorado Code of Regulations [CCR] 1001-3, 5 CCR 1001-9) have been identified as action-specific ARARs. Based on process evaluation and Air Quality Management review, the anticipated air emissions are not sufficient to generate Air Pollution Emission Notices or air permitting requirements. Colorado Air Quality Control Commission Regulations Numbers 10 and 15 (5 CCR 1001-10 and 5 CCR 1001-15) will be followed to maintain the quality of air with respect to construction activities specific emission sources such as generators which use petroleum products, and the disposal of refrigerants. In addition, 5 CCR 1001-14 will be followed to maintain the quality of ambient air in compliance with the National Ambient Air Quality Standards (NAAQS).

Additionally, the National Emission Standards for Hazardous Pollutants (NESHAP) (5 CCR 1001-10; 40 CFR 61 Subpart H) have been identified as a chemical-specific ARAR to evaluate potential radionuclide emissions. The EDE will be calculated for those emissions anticipated from the operations associated with building demolition.

Although no hazardous waste generation is anticipated from demolition, any remediation waste generated during this removal action will be evaluated under 6 CCR 1007-3, Part 261, Identification and Listing of Hazardous Waste, specifically Subparts A through C. A temporary unit, specifically a 90-day area, may be established under 6 CCR 1007-3, 264.553, then deleted when the area is no longer needed.

Table 5-1 ARARs For The 980 Cluster

Action	Requirement	Prerequisite	Citation	ARAR
Air Quality	Compliance with air emissions	Prevention of exceeding emissions for smoke, particulates and volatile of concerns.	5 CCR 1001-3 5 CCR 1001-9	Applicable
Air Quality	Compliance with NESHAPs	Regulates radionuclide emissions from DOE facilities limit of 10 mrem/yr. Site standard.	5 CCR 1001-10, 40 CFR 61 Subpart H	Applicable
Air Quality	Compliance with NAAQS	Maintain quality of ambient air for criteria pollutants.	5 CCR 1001-14	Applicable
Air Quality	Compliance with asbestos requirements	Certification, training, notification standards for demolition, storage, and handling of waste.	5 CCR 1001-10	Applicable
Air Quality	Compliance with particulates control	Implemented for construction activities, haul roads, haul trucks, demolition activities.	5 CCR 1001-3	Applicable
Air Quality	Compliance with Hazardous Air Pollutants	Implemented if the remedial action involves a specific regulated source type or pollutant.	5 CCR 1001-10	Applicable
Air Quality	Compliance with ozone depleting compound requirements	Ensure refrigerants are disposed of and disassembled. Use trained, registered, certified technicians, approved vessel recovery method must be used.	5 CCR 1001-15	Applicable
TSCA	Disposal of PCBs	Ensure that any materials with ≥ 50 ppm for PCBs are managed according to TSCA.	40 CFR Part 761	TBC
Corrective Action for Hazardous Waste	Temporary unit container storage requirements	Operate temporary container storage area.	6 CCR 1007-3, 264.553	Applicable
Hazardous Waste	Compliance with Colorado Hazardous Waste Act	Identification and characterization of hazardous waste	6 CCR 1007-3, 261	Applicable
Radiation Protection	Standards for rad. protection	Establishes the criteria for the protection of human health and the environment.	DOE 5400.5	TBC

Screening for PCBs will be performed on suspect materials prior to demolition. Presently, the painted concrete building pads are the only areas where special use coatings, which may contain PCBs, are suspect. If sampling results are ≥ 50 ppm for PCBs, the material will be managed in accordance with 40 CFR Part 761, Disposal of Polychlorinated Biphenyls.

Due to the potential for radiological contamination in specific areas of the Building 980 Cluster, guidelines contained in DOE Order 5400.5 have been identified as To Be Considered (TBC). In the event that radiological contamination is identified, DOE Order 5400.5 will be followed to ensure protection of the workers, the public, and the environment.

Soil excavation will not be necessary during this removal action. The cement pad for each building will remain in place. The Individual Hazardous Substance Site located on the south side of Building 980 will be secured to ensure no disruption of soils within its boundary.

The only potential impact to water quality associated with the 980 Cluster project is due to storm water run off during the demolition phase. Quantities of water-borne soil leaving the immediate area are expected to be small.

6.0 IMPLEMENTATION SCHEDULE

The Building 980 Cluster is scheduled for decommissioning by the end of this fiscal year (September 30, 1997). (See Figure 6-1.)

7.0 DOCUMENTATION

A closeout report will be generated identifying work completed, method of validation, sampling date (if any), status of any areas of risks, any new areas of concern, and the status of the unit at the end of the decommissioning action. The report will also include:

- Any modifications or variations from the original decision document (this PAM).
- Any analytical results, including the results of any confirmatory sampling taken to verify completion of the action.
- Quantity and characteristics of the actual wastes produced and how the wastes were stored or disposed.

This document closes the decommissioning administrative record.

8.0 REFERENCES

DOE, 1992, *Historical Release Report for the Rocky Flats Plant*, Rocky Flats Plant, Golden, CO.

DOE, 1996, *Final Rocky Flats Cleanup Agreement, Rocky Flats Environmental Technology Site*, Golden, CO.

Kaiser-Hill Company, L. L. C., 1996, *Rocky Flats Environmental Technology Site Radiological Control Manual*, June 1996.

Department of Energy, *Waste Stream and Residue Identification and Characterization for Building 965, 968, and 980.*

Nuclear Regulatory Commission, 1992, *NUREG/CR-5849, Manual For Conducting Radiological Surveys In Support Of License Termination.*